



U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

April 8, 2015

Exemption No. 11309
Regulatory Docket No. FAA-2014-0964

Mr. Michael Burns
Assistant Vice President
USAA
9800 Fredericksburg Road
San Antonio, TX 78288

Mr. Greg Cirillo
Counsel for USAA
Wiley Rein LLP
7925 Jones Branch Drive, Suite 6200
McLean, VA 22102

Dear Mr. Burns and Mr. Cirillo:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

The Basis for Our Decision

By letter dated November 14, 2014, you petitioned the Federal Aviation Administration (FAA) on behalf of United Services Automobile Association (hereinafter petitioner or operator) for an exemption. The exemption would allow the petitioner to operate an unmanned aircraft system (UAS) to conduct operations during disaster and catastrophe events to assist its membership and their communities.

See Appendix A for the petition submitted to the FAA describing the proposed operations and the regulations that the petitioner seeks an exemption.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner.

Airworthiness Certification

The UAS proposed by the petitioner is a PrecisionHawk Lancaster.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112–95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA–2014–0352), 11109 to Clayco, Inc. (*see* Docket No. FAA–2014–0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA–2014–0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA–2014–0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, United Services Automobile Association is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a),

91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this grant of exemption, United Services Automobile Association is hereafter referred to as the operator.

Failure to comply with any of the conditions and limitations of this grant of exemption will be grounds for the immediate suspension or rescission of this exemption.

1. Operations authorized by this grant of exemption are limited to the PrecisionHawk Lancaster when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.
2. Operations for the purpose of closed-set motion picture and television filming are not permitted.
3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.
4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.
5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.
6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.
7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of

exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed.

Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS-80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g. replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.
9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.
10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g. inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.
11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.
12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.
13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal

government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.
15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.
16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.
17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.
18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.
19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.
20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.
21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The

exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N-Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.
23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.
24. The UA must remain clear and give way to all manned aviation operations and activities at all times.
25. The UAS may not be operated by the PIC from any moving device or vehicle.
26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
 - a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
 - b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.
28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS-80) within 24 hours. Accidents must be

reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.nts.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.
30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
 - a. Dates and times for all flights;
 - b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
 - c. Name and phone number of the person responsible for the on-scene operation of the UAS;
 - d. Make, model, and serial or N-Number of UAS to be used;
 - e. Name and certificate number of UAS PICs involved in the aerial filming;
 - f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
 - g. Signature of exemption holder or representative; and
 - h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.
31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on April 30, 1017, unless sooner superseded or rescinded.

Sincerely,

/s/

John Barbagallo

Acting Deputy Director, Flight Standards Service



7925 Jones Branch Drive, Suite 6200
McLean, Virginia 22102



9800 Fredericksburg Road
San Antonio, Texas 78288

Docket Operations, M-30
U.S. Department of Transportation (DOT)
1200 New Jersey Avenue, SE
Room W12-140
West Building Ground Floor
Washington, D.C. 20590-0001

November 14, 2014

Reference: USAA Petition for Section 333 Exemption: Re: Small Unmanned Aircraft Systems in Property and Casualty Insurance in Catastrophe Operations

Dear Sir or Madam,

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA), United Services Automobile Association (USAA) is petitioning for an exemption from the Federal Aviation Regulations and other rules/statutes pertaining to unmanned aircraft systems. Section 333 of the FMRA addresses special rules for certain unmanned aircraft systems and grants the FAA authority to allow for the safe operation of certain unmanned aircraft systems (UAS) within the national airspace. Property and casualty insurers play a major role in funding the restoration of businesses and communities after catastrophic incidents such as wildfire, hail and wind storms, hurricanes and mudslides. The integration of unmanned aircraft into USAA's catastrophe response operations will have immediate, positive effects on the lives of its members and the communities in which they work and reside.

Since 1922, USAA has served the military community and their families providing a full range of highly competitive financial products and services to our membership. We have world class employees that are personally committed to delivering excellent service and guidance regarding insurance, banking and investments. USAA focuses its innovation on developing products and new technology to assist its membership from policy inception to fulfilling our service commitment during a claims event. USAA has over ten million members that look to USAA to help them restore and rebuild after a wide range of natural and other disasters, and USAA is always seeking ways to improve the timing and quality of its responses to members' needs.

We have identified unmanned aircraft systems as a technology which can alleviate safety concerns associated with manned inspections both in the air and on the ground, and provide enhanced service and experience to our membership in a safe and efficient environment. USAA has one of the most respected and experienced catastrophe response teams in the United States. Our response teams are trained in catastrophe operations and are ready to deploy to assist our membership and their communities at a moment's notice.

USAA has developed the operational maturity needed to deploy safely and provide the benefits of the UAS technology to needed communities through our partnerships with public entities such as FAA UAS Test Sites, selected universities, and UAS studies in disaster events. Through an

approved FAA COA, USAA, in partnership with Roboticists Without Borders, has been able to develop a UAS program and gain safe UAS operational experience at a catastrophe site. This year, USAA and Roboticists Without Borders traveled to Oso, WA to assist the area by providing aerial imagery and mapping of the mudslide area so the community could rebuild roads, route rivers and assist this area that was devastated by a massive catastrophe in March 2014. Currently, USAA along with other industry partners is researching a UAS study for public safety and emergency response operations in collaboration with the American Red Cross and the Federal Emergency Management Agency (FEMA). The study will demonstrate the ways UAS can be utilized to respond to emergencies, save lives and help communities recover.

Obtaining an exemption would give USAA the authority to request UAS catastrophe operations directly from the FAA for the direct benefit of its membership. Currently, the FAA does not allow civil UAS operations (meaning operations other than public aircraft operations or model aircraft / "hobbyist" activities which include research and development); therefore USAA has not been able to operationalize and deploy its UAS for the benefit of its membership and the communities in which they reside.

14 CFR 11.81 (a) – Name and address of the Petitioner:

United Services Automobile Association
9800 Fredericksburg Road
San Antonio, Texas 78288

Phone: 703-905-2808
E-mail: gcirillo@wileyrein.com

14 CFR 11.81 (b) – Exemptions Requested:

The FAA considers unmanned aircraft as "aircraft" flown by a "pilot" regardless of the location of the pilot. All aircraft and pilots must comply with applicable sections of Title 14 of the Code of Federal Regulations (14 CFR) and other rules/regulations to operate within the National Airspace. Unmanned aircraft are unable to comply with certain sections of 14 CFR as the regulations were written prior to the consideration of small UAS integration within the national airspace. Therefore USAA is requesting an exemption from certain parts of 14 CFR cited below, in addition to such further exemptions and relief as the FAA may determine is necessary to permit the operations described herein.

14 CFR Part 21 Subpart H – Airworthiness certification
14 CFR Part 45.23 (b) – Display of marks; general
14 CFR Part 61.113 (a) and (b) – Private pilot privileges and limitations: Pilot in command
14 CFR Part 91.7 – Civil Aircraft Airworthiness
14 CFR Part 91.9 (b) – Civil aircraft flight manual, marking and placard requirements
14 CFR Part 91.109 – Flight Instruction
14 CFR Part 91.119 – Minimum safe altitudes
14 CFR Part 91.121 – Altimeter settings

14 CFR Part 91.151 – Fuel requirements for flight in VFR conditions
14 CFR Part 91.203 (a) and (b) – Civil Aircraft; Certifications Required
14 CFR Part 91.405 – Maintenance required
14 CFR Part 91.407 – Operation after maintenance, preventive maintenance, rebuilding or alteration
14 CFR Part 91.409 – Inspections
14 CFR Part 91.417 – Maintenance Records
U.S. DOT-FAA-Air Traffic Organization Policy Notice N JO 7210.873 (6.d)

14 CFR Part 11.81 (c) – The extent of relief USAA seeks, and the reason USAA seeks the relief:

USAA seeks relief pursuant to this exemption from applicable parts of the Federal Aviation Regulations and other rules/regulations to the extent necessary to permit civil flight operations within the national airspace. USAA seeks authorization to conduct small UAS flight operations within the perimeters of this exemption request.

14 CFR Part 21 Subpart H (Airworthiness Certificates)

USAA seeks to utilize the PrecisionHawk Lancaster UAS platform under this exemption request. This UAS platform has gained substantial operational maturity via several FAA approved Certificates of Authorization. It has a proven safety record and has demonstrated that its operations would not adversely affect safety compared to similar aircraft that have been issued an airworthiness certificated under 14 CFR Part 21, Subpart H. Should the FAA approve this exemption request and determine that an airworthiness certificate is not required, noise certification and testing under 14 CFR Part 36 will also not be required for the UAS for the term of the exemption.

14 CFR Part 45.23 (b) (Display of Marks: General)

USAA, as the petitioner seeks relief from Part 45.23 (b) requiring markings on certain sections of the aircraft and markings of a certain size. USAA will register their UAS in compliance with 14 CFR Part 47 and obtain N# registrations and will place that N# registration on the UAS as large as practicable due to the UAS small size.

14 CFR Part 61.113 (a) and (b) (Private Pilot Privileges and Limitations: Pilot in Command)

Part 61.113 (a) states that no person who holds a private pilot certificate may act as pilot in command of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft. Part 61.113 (b) states that a private pilot may, for compensation or hire, act as pilot in command of an aircraft in connection with any business or employment if: (1) The flight is only incidental to that business or employment; and (2) The aircraft does not carry passengers or property for compensation or hire. Within the Grant of Exemption Regulatory Docket No. FAA-2014-0352, the FAA stated that it had to determine the level of pilot certificate appropriate for that proposed operation. The FAA said within the Grant that it considers the overriding safety factor to be the airmanship skills acquired through UAS-specific flight cycles, flight time, and specific make and model experience and UAS testing. USAA agrees with this determination; however we do not

feel that that it is necessary for our exemption request that the PIC possess a FAA Private Pilot Certificate. USAA contends that in determining the appropriate level for pilot certification, that consideration should be given for airspace operations (separation from manned aircraft), aeronautical knowledge requirements, and UAS airmanship skills. USAA finds that the appropriate level of training and certification to support safe UAS operations within the parameters proposed by this petition is to require that the PIC and VO have taken and passed FAA Private Pilot Ground School and passed that FAA written knowledge exam. This provides the knowledge base for airspace operations and aeronautical knowledge. USAA also agrees with the FAA's determination of UAS airmanship skills and requirements for the PIC as stated in the Grant. USAA has also secured a FAA Commercial Pilot/FAA Certified Flight Instructor with UAS experience as its Safety Officer and that person will maintain oversight of the training and flight operations and have the final authority and responsibility for the operation and safety of all UAS flights.

14 CFR Part 91.7 (Civil Aircraft Airworthiness)

This regulation states that (a) No person may operate a civil aircraft unless it is in airworthy condition and (b) The pilot in command of a civil aircraft is responsible for determining whether that aircraft is in condition for safe flight. The pilot in command shall discontinue the flight when unairworthy mechanical, electrical, or structural conditions occur. This exemption would not be necessary should the FAA approve the exemption for 14 CFR Part 21 Subpart H. If USAA's UAS is not required to obtain an airworthiness certificate, then this would not apply; however USAA would maintain the UAS and the PIC would deem the UAS safe for flight operations and discontinue any flight if any mechanical, electrical, or structural problem arose.

14 CFR Part 91.9 (b) (Civil Aircraft Flight Manual, marking and placard requirements) and 14 CFR Part 91.203 (a) and (b) (Civil Aircraft; Certifications Required)

This regulation states that no person may operate a U.S. registered civil aircraft-(1) For which an Airplane or Rotorcraft Flight Manual is required by Part 21.5 of 14 CFR unless there is available in the aircraft a current, approved Airplane or Rotorcraft Flight Manual or the manual provided for in 14 CFR Part 121.141 (b); and (2) For which an Airplane or Rotorcraft Flight Manual is not required by 14 CFR Part 21.5, unless there is available in the aircraft a current approved Airplane or Rotorcraft Flight Manual, approved manual material, markings and placards or any combination thereof. Based on the FAA's Memorandum titled, "Interpretation regarding whether certain required documents may be kept at an unmanned aircraft's control station", dated August 8, 2014, USAA feels that requesting relief from these regulations may not be necessary. USAA will have in its possession, on site, the UAS manufacturer's flight/operations manual and registration paperwork.

14 CFR Part 91.109 (Flight Instruction)

This regulation relates to civil aircraft with dual controls or throw over controls for flight training. USAA seeks relief from this regulation in that our UAS does not have dual or throw over controls for flight instruction. USAA has provided all training and operational documents for our UAS platform, the PrecisionHawk Lancaster. USAA evaluates the qualification of our pilots based on their experience with the UAS to be operated and verifies this through manufacturer and USAA-supplemented training (from USAA's own FAA Certified Flight Instructor and UAS pilot).

14 CFR Part 91.119 (b) and (c) (Minimum Safe Altitudes: General)

Per the regulation, except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes: (a) Anywhere. An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface. (b) Over congested areas. Over any congested area of a city, town, or settlement, or over any open air assembly of persons, an altitude of 1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft. (c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those areas, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure. USAA does not request relief from (a) as we feel that our UAS can make an emergency landing without undue hazard to persons or property on the ground if its power unit fails due to its size and operating parameters. USAA is seeking relief from (b) and (c) because in catastrophe events/locations, we would need to operate at a lower altitude (no less than 200 feet) to obtain the most optimal flight conditions, but we would not operate at an altitude that would create any undue hazard to persons or property on the surface.

14 CFR Part 91.121 (Altimeter Settings)

This regulation states that:(a) Each person operating an aircraft shall maintain the cruising altitude or flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating—(1) Below 18,000 feet MSL, to—(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft; (ii) If there is no station within the area prescribed in paragraph (a)(1)(i) of this section, the current reported altimeter setting of an appropriate available station; or (iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure; or (2) At or above 18,000 feet MSL, to 29.92" Hg.(b) The lowest usable flight level is determined by the atmospheric pressure in the area of operation as shown in the following table:

Current altimeter setting	Lowest usable flight level
29.92 (or higher)	180
29.91 through 29.42	185
29.41 through 28.92	190
28.91 through 28.42	195
28.41 through 27.92	200
27.91 through 27.42	205
27.41 through 26.92	210

(c) To convert minimum altitude prescribed under §§91.119 and 91.177 to the minimum flight level, the pilot shall take the flight level equivalent of the minimum altitude in feet and add the appropriate number of feet specified below, according to the current reported altimeter setting:

Current altimeter setting	Adjustment factor
29.92 (or higher)	None
29.91 through 29.42	500
29.41 through 28.92	1,000
28.91 through 28.42	1,500
28.41 through 27.92	2,000
27.91 through 27.42	2,500
27.41 through 26.92	3,000

Although USAA will not have a typical aircraft barometric altimeter onboard the UAS, our intention is to operate within VLOS and at or below 400 feet AGL. This, in combination with our UAS's capacity will provide altitude information to both the PIC and mission specialist/planner via a telemetric data feed which downlinks from the UAS to a ground based display. Prior to each flight the UAS PIC and mission specialist/planner will confirm altitude accuracy prior to launch.

14 CFR Part 91.151 – Fuel Requirements for Flight in VFR Conditions

According to this regulation, (a) No person may begin a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed— (1) During the day, to fly after that for at least 30 minutes; or (2) At night, to fly after that for at least 45 minutes. (b) No person may begin a flight in a rotorcraft under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 20 minutes.

USAA seeks relief from Part 91.151 (a.1) and (b), as its UAS does not carry fuel onboard and is powered via battery. USAA's UAS is 5.5 lbs, operates at slow speeds and within VLOS in VMC conditions. USAA intends to terminate flights after 90 minutes or with 20% remaining battery power (whichever occurs first). USAA does not seek an exemption from Part 91.151 (a)(2) as UAS operations will be conducted during the daytime VMC (visual meteorological conditions).

14 CFR Part 91.203 (a) and (b) – Civil Aircraft; Certifications Required

This regulations states that (a) Except as provided in §91.715, no person may operate a civil aircraft unless it has within it the following: (1) An appropriate and current airworthiness certificate. Each U.S. airworthiness certificate used to comply with this subparagraph (except a special flight permit, a copy of the applicable operations specifications issued under §21.197(c) of this chapter, appropriate sections of the air carrier manual required by parts 121 and 135 of

this chapter containing that portion of the operations specifications issued under §21.197(c), or an authorization under §91.611) must have on it the registration number assigned to the aircraft under part 47 of this chapter. However, the airworthiness certificate need not have on it an assigned special identification number before 10 days after that number is first affixed to the aircraft. A revised airworthiness certificate having on it an assigned special identification number, that has been affixed to an aircraft, may only be obtained upon application to an FAA Flight Standards district office. (2) An effective U.S. registration certificate issued to its owner or, for operation within the United States, the second copy of the Aircraft registration Application as provided for in §47.31(c), or a registration certification issued under the laws of a foreign country. (b) No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under §91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

Should the FAA allow for the exemption of 14 CFR Part 21, USAA would not need an exemption from this regulation, as an airworthiness certificate would not be required; however since that exemption has not been received to date, USAA seeks relief from this regulation. USAA's UAS will be registered with the FAA and will have the appropriate documentation available upon request.

14 CFR Part 91.405 – Maintenance required

According to this regulation, each owner or operator of an aircraft—(a) Shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter; (b) Shall ensure that maintenance personnel make appropriate entries in the aircraft maintenance records indicating the aircraft has been approved for return to service; (c) Shall have any inoperative instrument or item of equipment, permitted to be inoperative by §91.213(d)(2) of this part, repaired, replaced, removed, or inspected at the next required inspection; and (d) When listed discrepancies include inoperative instruments or equipment, shall ensure that a placard has been installed as required by §43.11 of this chapter. USAA seeks relief from this regulation because alternate UAS inspection requirements are needed. USAA will follow UAS manufacturer requirements regarding maintenance via the attached manufacturer maintenance schedule. USAA will document all maintenance, overhaul, replacement, and inspection requirements, as well as any preflight inspection procedures that account for discrepancies not already covered in the manufacturer's manual; documentation of maintenance records and will partner with the UAS manufacturer to develop UAS technician qualification criteria.

14 CFR Part 91.407 – Operation after maintenance, preventive maintenance, rebuilding or alteration

Per this regulation, (a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless— (1) It has been approved for return to service by a person authorized under §43.7 of this chapter; and (2) The maintenance record entry required by §43.9 or §43.11, as applicable, of this chapter has been made. (b) No person may carry any person (other than crewmembers) in an aircraft that has been maintained, rebuilt, or altered in a manner that may have appreciably changed its flight characteristics or

substantially affected its operation in flight until an appropriately rated pilot with at least a private pilot certificate flies the aircraft, makes an operational check of the maintenance performed or alteration made, and logs the flight in the aircraft records. (c) The aircraft does not have to be flown as required by paragraph (b) of this section if, prior to flight, ground tests, inspection, or both show conclusively that the maintenance, preventive maintenance, rebuilding, or alteration has not appreciably changed the flight characteristics or substantially affected the flight operation of the aircraft.

USAA seeks relief from this regulation, and requests that the FAA adopt an alternative version that is applicable to UAS operations. A USAA-approved UAS technician or the UAS manufacturer will approve the UAS to return to service/operation after it has undergone maintenance, rebuilding or alteration. The UAS PIC may approve the UAS for return to service after performing any preventive maintenance. USAA will keep UAS maintenance records that contain the following information: name of the person performing the maintenance, description of work performed, and date of work completion/returned to service.

14 CFR Part 91.409 – Inspections

According to this regulation, (a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had—(1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by §43.7 of this chapter; or 2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter. No inspection performed under paragraph (b) of this section may be substituted for any inspection required by this paragraph unless it is performed by a person authorized to perform annual inspections and is entered as an “annual” inspection in the required maintenance records. (b) Except as provided in paragraph (c) of this section, no person may operate an aircraft carrying any person (other than a crewmember) for hire, and no person may give flight instruction for hire in an aircraft which that person provides, unless within the preceding 100 hours of time in service the aircraft has received an annual or 100-hour inspection and been approved for return to service in accordance with part 43 of this chapter or has received an inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter. The 100-hour limitation may be exceeded by not more than 10 hours while en route to reach a place where the inspection can be done. The excess time used to reach a place where the inspection can be done must be included in computing the next 100 hours of time in service. (c) Paragraphs (a) and (b) of this section do not apply to— (1) An aircraft that carries a special flight permit, a current experimental certificate, or a light-sport or provisional airworthiness certificate; (2) An aircraft inspected in accordance with an approved aircraft inspection program under part 125 or 135 of this chapter and so identified by the registration number in the operations specifications of the certificate holder having the approved inspection program; (3) An aircraft subject to the requirements of paragraph (d) or (e) of this section; or (4) Turbine-powered rotorcraft when the operator elects to inspect that rotorcraft in accordance with paragraph (e) of this section.

USAA seeks relief from this regulation, in that USAA will follow the guidance included in the UAS manufacturer’s maintenance schedule as attached.

14 CFR Part 91.417 – Maintenance Records

According to this regulation, (a) Except for work performed in accordance with §§91.411 and 91.413, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section: (1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include— (i) A description (or reference to data acceptable to the Administrator) of the work performed; and (ii) The date of completion of the work performed; and (iii) The signature, and certificate number of the person approving the aircraft for return to service. (2) Records containing the following information: (i) The total time in service of the airframe, each engine, each propeller, and each rotor. (ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance. (iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis. (iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained. (v) The current status of applicable airworthiness directives (AD) and safety directives including, for each, the method of compliance, the AD or safety directive number and revision date. If the AD or safety directive involves recurring action, the time and date when the next action is required. (vi) Copies of the forms prescribed by §43.9(d) of this chapter for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances. (b) The owner or operator shall retain the following records for the periods prescribed: (1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed. (2) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold. (3) A list of defects furnished to a registered owner or operator under §43.11 of this chapter shall be retained until the defects are repaired and the aircraft is approved for return to service. (c) The owner or operator shall make all maintenance records required to be kept by this section available for inspection by the Administrator or any authorized representative of the National Transportation Safety Board (NTSB). In addition, the owner or operator shall present Form 337 described in paragraph (d) of this section for inspection upon request of any law enforcement officer. (d) When a fuel tank is installed within the passenger compartment or a baggage compartment pursuant to part 43 of this chapter, a copy of FAA Form 337 shall be kept on board the modified aircraft by the owner or operator.

USAA seeks relief from this regulation and requests an exemption. All maintenance and alterations will be properly documented in the UAS aircraft records. USAA will follow the UAS manufacturer's aircraft/component, maintenance, overhaul, replacement, inspection and life limit requirements. All maintenance, preventive maintenance, alterations, status of replacement/overhaul component parts, and the total time in service of the UAS will be recorded and documented. USAA will comply with all manufacturer safety bulletins.

U.S. DOT-FAA-Air Traffic Organization Policy Notice N JO 7210.873 (6.d)

6(d) Certificates of Waiver or Authorization (COA)-Emergency and Urgent Applications: The FAA must ensure procedures are available to accommodate real-time applications that will directly support emergency and law enforcement-type operations. UA Operations that reduce safety must not be approved in any case. (1) An emergency UAS COA may be considered when all of the following conditions apply: (a) There is a situation of such distress or urgency that the possibility of loss of life is great. (b) Manned flight is not possible or practicable due to a hazard or the operation cannot be conducted safely with manned flight, or manned assets are not available. (c) The proposed proponent and UAS are operating under a current approved COA. *Note- Requests for UAS COAs that fall outside of these perimeters must be processed through the normal online COA application process.* (2) Emergency UAS COAs will not be considered for: (a) Demonstration flights. (b) Flights to test capabilities. (c) Training. (d) Flights in Class B airspace. (e) Flights over populated areas.

USAA seeks an exemption from the normal FAA UAS Civil COA Request mandated by a Section 333 Exemption filing and the current Emergency COA process. During a catastrophe event, the exact timeframe and location is not known ahead of time; therefore, USAA could not abide by the current COA process and would need an exemption from the normal COA process as well as the current Emergency COA process. USAA would notify the local FSDO of the affected area immediately, apply for an amended Emergency COA (as granted by this exemption) and would notify any Incident Command or first responders for approval and coordination and would not interfere with first responders' activities. Through this request, USAA is seeking relief from U.S. DOT-FAA-Air Traffic Organization Policy Notice N JO 7210.873 (6.d)-1(a), 1(c), 2(d) with ATO approval, and 2(e) of the COA process stated above.

14 CFR Part 11.81 (d) – The reasons why granting USAA's request would be in the public interest; that is, how it would benefit the public as a whole:

Granting the exemption for USAA would allow the organization to safely and efficiently conduct small UAS flight operations to assist its membership and their communities after catastrophic events and will reduce the time it takes communities to rebuild after natural disasters. UAS operations will provide more efficient claims service to its membership and could positively impact post-disaster recovery and relief operations via shared resources with first responders. Without this exemption, USAA would be restricted to ground only operations which would not have the benefits of UAS efficiency in terms of both service and safety. Property inspections at these areas are difficult and at times dangerous for employees to navigate, especially when debris and dwelling integrity is an issue. USAA believes a UAS operation can lead to safer, quicker, and more economical and effective claims service for its more than ten million members and their communities.

14 CFR Part 11.81 (e) – The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which USAA seeks the exemption:

USAA requests that the exemption be granted with the following limitations and operational conditions. These limitations and conditions will provide an enhanced level of safety and will be the guiding principles when USAA is conducting operations under this exemption:

- A. The small unmanned aircraft systems maximum take-off weight will be less than 55 lbs. Detailed specifications are included in the attachments. USAA is willing to have its authorization restricted below the 55 lb. threshold to the operating weight of the unmanned aircraft identified. The fixed winged UAS platform that USAA is seeking to utilize through this exemption is currently operating safely within the national airspace pursuant to several COAs granted by the FAA to Texas A&M College Station and other public entities. One these COAs was for the use of the PrecisionHawk Lancaster HawkEye – the type of UAS that USAA seeks to utilize -to provide aerial imagery and mapping for authorities at the recent Washington state mudslides in Oso, WA. Other COAs have been approved for this particular platform through other public entities, which demonstrates the confidence that the FAA has for this manufacturer's operational and safety protocol. USAA has attached the PrecisionHawk Lancaster's Flight Manual, Maintenance Schedule, and training documents for review within this exemption application. USAA would operate in accordance with all of these documents.
- B. All pilot in command (PIC) and visual observers (VO) will complete FAA certified private pilot ground school and will have taken and passed the FAA Private Pilot Written Exam. This ensures that all PIC and VO have the knowledge regarding the Federal Aviation Regulations, Airspace, and other pertinent knowledge to conduct safe operations of small unmanned aircraft systems. A USAA employee with a FAA commercial pilot certificate and flight instructor certificate (USAA Safety Officer) that has been trained on UAS operations will oversee all training/operations and ensure all PIC and VO receive proper training and abide by all pertinent regulations. This employee/FAA commercial pilot will meet all the flight review requirements specified in 14 CFR Part 61.56 in an aircraft in which the PIC is rated on her/his flight certificate. All PIC and VO will be trained in detail to each of the unmanned aircraft system platform's operations, systems and emergency procedures and passed every level of training on the platform and pass the manufacturer's test administered by the USAA employee/CFI (Trained by the UAS manufacturer on the platform). Training records will be kept at USAA for every PIC and VO and will be available for review. Every PIC and VO will obtain an FAA Class 3 medical certificate. Every USAA PIC and VO will receive FEMA training and will fully participate with Incident Command and follow their guidance.
- C. Prior to conducting operations in a disaster/catastrophe event, the PIC will have accumulated and logged, in a manner consistent with 14 CFR Part 61.51 (b), a minimum of 200 flight cycles and 25 hours of total time as a UAS fixed wing pilot and at least 10 hours logged as a UAS pilot with a similar UAS type. The PIC will have accumulated and logged a minimum of 5 hours as a UAS pilot operating the make and model of the UAS to be utilized for operations and 3 take off and landings in the preceding 90 days. USAA has utilized its partnerships with FAA UAS Test Sites and Roboticists Without Borders to

gain this maturity along with other experience building authorized flights. USAA, through its first exemption request (Docket FAA-2014-0796-0001), seeks to make this process more efficient and streamlined for building UAS experience in the future.

All flight operations will be coordinated and approved by the FAA in advance of USAA's arrival at the catastrophe site via an amended emergency COA (see emergency COA exemption request). USAA would comply with all direction from onsite Incident Command and any other public safety or emergency response official. USAA would not impede or disrupt any first responder activities and UAS operations would only be conducted when it is deemed safe to do so and in coordination with the appropriate officials at the location. The UAS will not be operated directly over any person, except authorized and consenting personnel at the site or unless the UAS is at sufficient altitude not to create a hazard to other people or property on the ground.

- D. All flight operations will be operated at an altitude of no more than 400 ft above the ground (AGL) within daylight VFR conditions and within visual line of sight (VLOS). The UAS will be operated within VLOS of the PIC at all times. The UAS will remain clear and yield the right of way to all other manned operations and activities at all times. All operations will utilize at least one visual observer (VO) and the PIC and VO will be able to communicate verbally at all times. As it is not possible to determine where or when a natural disaster will occur, USAA seeks authorization to conduct UAS operations within Class G, E, C, D and B and special use airspaces (TFR), with appropriate written authorization from the FAA (via an amended emergency COA), ATO, and any applicable incident command. No flight operations will be operated within Class A airspace. The UAS will not operate within 5 nm of any airport unless a letter of agreement with that airport's management is obtained and the operation is conducted in accordance with a NOTAM, as required by a COA. All flights will be communicated to FAA Flight Service with posted NOTAMS prior to the flight(s).
- E. All flight operations will be conducted within line of sight of the pilot in command and visual observer(s). Maximum total flight time for each flight will be 90 minutes or less in duration. All flight operations will be terminated when the aircraft has less than 20% battery life remaining.
- F. Flight operations and safety briefings will be conducted prior to all planned small unmanned aircraft system flights and will be mandatory for PIC and VO. Briefings will include weather reviews, take off, landing and aircraft performance data for those real time conditions, and full pre- and post-flight inspections/checklists and briefings for each specific unmanned aircraft system, including the ground control station being operated and account for any discrepancies (i.e. inoperable components, items or equipment that are not covered in the relevant preflight inspection sections of the operations manual.) Before conducting any flight, the radio frequency spectrum used for the operation and control of the UAS will comply with the FCC or other appropriate government oversight agency requirements.

- G. USAA will obtain an Air Traffic Organization (ATO) issued Emergency COA (amended by this exemption) prior to conducting any operations. This Emergency COA will require USAA to request a Notice to Airmen (NOTAM) upon immediate approval of the COA. Since no one can predict with certainty the location and timing of natural disasters, USAA would not be able to give the local FSDO three days notice of planned activities; however, upon notice of the event, USAA will submit a written plan to the local FSDO of the affected area:
- Dates and approximate times of flights
 - Name and phone number of the USAA PIC and VO
 - Name and phone number of the person responsible for on-site operation of the UAS
 - Make, model, and serial or N-Number of the UAS to be used
 - Name and certificate number of the USAA Safety Officer at the site
 - A statement that USAA has obtained permission from local officials/incident command to conduct operations at the site; the list of those who gave the permission will be made available to the FAA upon request
 - A description of the flight activity, including maps of any area, city, town, county and/or state which flights will be conducted and the altitudes essential to accomplish the flights.
- H. Any UAS that has undergone maintenance or alterations that affects the UAS operation or flight characteristics must undergo a functional test flight in accordance with the manufacturer's recommendations. The PIC who conducts the test flight will make an entry in the UAS aircraft records of the flight. All maintenance and alterations will be properly documented in the aircraft records. USAA will follow the UAS manufacturer's aircraft/component, maintenance, overhaul, replacement, inspection and life limit requirements. All maintenance, preventive maintenance, alterations, status of replacement/overhaul component parts, and the total time in service of the UAS will be recorded and documented. USAA will comply with all manufacturer safety bulletins.
- I. In the event of a communication lost link, the UAS will return to a specific predetermined location and once the UAS is safely recovered, all flight operations will cease until any communication/data link issues are properly resolved. The UAS will abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operator's manual.
- J. Regarding privacy concerns, USAA will coordinate all activities with incident command and any other public officials.
- K. Any incident, accident or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA will be reported to the FAA's UAS Integration Office (AFS-80) within 24hrs. Accidents will be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.nts.gov. USAA will suspend all flight operations until the

incident, accident, or transgression is reviewed by AFS-80 and authorization to resume operations is provided.

14 CFR Part 11.81 (f) A summary the FAA can publish in the *Federal Register*, stating:

(1) The rule from which you seek the exemption

Petitioner: United Services Automobile Association

Sections of 14 CFR and FAA regulations that USAA seeks an exemption:

14 CFR Part 21 Subpart H
14 CFR Part 45.23 (b)
14 CFR Part 61.113 (a) and (b)
14 CFR Part 91.7
14 CFR Part 91.9 (b)
14 CFR Part 91.109
14 CFR Part 91.119
14 CFR Part 91.121
14 CFR Part 91.151
14 CFR Part 91.203 (a) and (b)
14 CFR Part 91.405
14 CFR Part 91.407
14 CFR Part 91.409
14 CFR Part 91.417
U.S. DOT-FAA-Air Traffic Organization Policy Notice N JO 7210.873 (6.d)

(2) A brief description of the nature of the exemption you seek:

USAA seeks relief from the applicable parts of 14 CFR 21, 45, 61, 91 and U.S. DOT-FAA-Air Traffic Organization Policy Notice N JO 7210.873 (6.d) as requested within this petition to allow USAA to safely and efficiently conduct civil UAS flight operations during disaster and catastrophe events to assist its membership and their communities.

14 CFR Part 11.81 (g) – Any additional information, views or arguments available to support USAA's request:

This exemption would give USAA the ability to assist its members and their communities with UAS development and operations beyond the limits imposed today. Additional development and operation would benefit not only USAA and its membership, but would allow USAA to serve as a partner with the FAA and others within the UAS community to advance this new and emerging technology in a safe and controlled environment. With our partnerships, USAA has demonstrated the value of our request to utilize our UAS technology within disaster recovery

areas to help communities rebuild after these events and maintain the safety of our employees, business partners and the general public.

14 CFR Part 11.81 (h) – Request to exercise the privileges of the exemption outside the United States, the reason why the petitioner needs to do so:

USAA does not seek to exercise the privileges of this exemption, should it be granted, outside of the United States. Our request is strictly to be granted authority for civil UAS operations at locations within the national airspace system.

Sincerely,



Greg Cirillo
Wiley Rein LLP
Counsel for USAA



Michael Burns
Assistant Vice President
USAA

Attachments: PrecisionHawk Flight Manual, Maintenance Schedule and training documents.